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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,165	05/01/2001	David A. Atkinson	LTI-PI-355	5640
7590	07/27/2004		EXAMINER	
Alan D. Kirsch Bechtel BWXT idaho, LLC P.O. Box 1625 Idaho Falls, ID 83415-3899			GURZO, PAUL M	
		ART UNIT	PAPER NUMBER	2881

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/847,165	ATKINSON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Paul Gurzo	2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 12 July 2004.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 44-78 is/are pending in the application.  
 4a) Of the above claim(s) 54-78 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 44-53 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of claims 44-53 in the reply filed on 7/12/04 is acknowledged.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 44, 46, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrien, Jr. et al. (6,326,616), and further in view of Wesley (4,458,153).

Regarding claim 44, 616 teaches a spectrometry analyzer source comprising an electrically conductive conduit (3 and 8), with a discharge end, to receive the sample and an electrically conductive reference device (4) positioned within the conduit to allow an electrical potential to be established (col. 6, line 39 - col. 4, line 4 and Fig. 1). They teach that the mass analyzer employed in the spectrometer (col. 12, lines 60-61 and claims 14 and 15), and it is well known in the art that the spectrometer can be used because ion mobility and atmospheric pressure ionization mass spectrometers are well known in the art. They teach the vaporization and ionization of at least some of the sample (col. 17, lines 42-50). While it is implied that this happens simultaneously, they do not explicitly state this. However, 153 states that a spark gap across the electrodes releases a large quantity of energy in a small area that instantaneously vaporizes and ionizes everything in the arc. Therefore, it would have been obvious to one of

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ordinary skill in the art at the time the invention was made to modify the teachings of Lewis et al. so that this happens simultaneously to increase efficiency.

Regarding claims 46 and 47, 616 teaches that the electrodes must be properly insulated (col. 2, lines 22-30), and 153 teaches a field generating means disposed adjacent a nonconductive portion of the flow conduit (13), and Fig. 1 shows the claimed opening (col. 3, lines 48-51 and Fig. 1).

Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andrien, Jr. et al. (6,326,616) in view of Wesley (4,458,153), and further in view of Kamo et al. (4,028,617).

While it is known that proper working order will only be achieved through accurate placement of the reference device, the above-applied art is silent to the claimed Paschen distance. However, 617 teaches that the spark discharge that arises between the gap of the two electrodes conforms with Paschen's Law (col. 1, lines 27-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to place the reference device at a distance greater than Paschen's distance so that the proper potential can be maintained.

Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andrien, Jr. et al. (6,326,616) in view of Wesley (4,458,153), and further in view of Liang et al. (5,081,397).

Regarding claim 48 the above-applied art does not state the claimed metal, but 397 teaches the use of stainless steel electrodes (12) (col. 6, lines 65-66, and Fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use stainless steel to reduce undesired effects of arcing.

Claims 49-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrien, Jr. et al. (6,326,616) in view of Wesley (4,458,153), and further in view of Spangler (6,407,382).

Regarding claims 49-52, 616 teaches the use of a potential generating means capable of maintaining the desired potential of the electrodes (col. 6, line 39 -col. 7, line 4), but they do not teach an electrical circuit to achieve these results. However, 382 teaches a solid-state circuitry for operation as well as a transistor switch to adjust the potential. The discharge is powered by a high voltage power supply (Abstract and col. 7, line 59 - col. 8, line 10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an electrical circuit because it achieves much the same result as the prior art and is merely a design choice.

Regarding claim 53, 616 teaches electrically grounding the conduit (col. 6, lines 55-64), and 382 teaches that the cathode is connected to the low side of the potential, which serves as a floating ground (col. 4, lines 17-20). 382 also teaches that the electrodes may be rings or grids (col. 8, lines 34-36).

***Response to Arguments***

Applicant's arguments filed 5/21/04 and 7/12/04 have been fully considered but they are not persuasive. Applicant argues that the prior art does not teach an electrically conductive reference device positioned within the conduit. On the contrary, 616 teaches an electrically conductive conduit (3) with attached electrode nosepiece (8) that is viewed as part of the electrically conductive conduit. This conductive device (3 and 8) has an electrically conductive reference device (4) that is positioned within it.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Gurzo whose telephone number is (571) 272-2472. The examiner can normally be reached on M-Fri. 7:30 - 6:00.

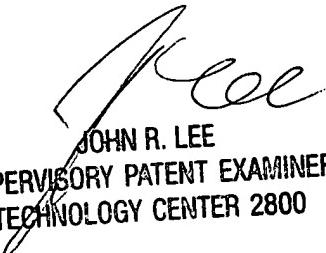
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Lee can be reached at (571) 272-2477. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PMG



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